

# TRANSACTIONS

OF THE

## SOUTH AFRICAN PHILOSOPHICAL SOCIETY.

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### DESCRIPTIVE CATALOGUE OF THE COLEOPTERA OF SOUTH AFRICA.

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### FAMILY CICINDELIDÆ.

#### SUPPLEMENT.

SINCE the publication, two years ago, of the Catalogue of the South African *Cicindelidæ*, the discovery of several very remarkable species, hitherto undescribed, and discovered mainly in Zambezia (now called Rhodesia), makes it necessary for me to publish a Supplement.

Most of the novelties have been obtained from the neighbourhood of Salisbury, where my valued correspondent, G. A. K. Marshall, Esq., has captured no less than thirteen new species, besides recording the habitat of several other known ones.

Zambezia seems indeed to be the home of the apterous genera *Cosmema* and *Myrmecoptera*, for I now know of no less than eighteen species—and all extremely typical—collected in that part of South Africa.

The low lands of Zambezia and Mozambique have not yet been explored by competent entomological collectors, nor has the northern part of N'Gami and Ovampoland, and it can be expected that new species will be discovered in these localities, but as they appear for a very short time only their capture will still remain a matter of difficulty.

Dr. Walter Horn, of Berlin, has very kindly communicated to me the types of the South African species described by him, and has thus enabled me to ascertain the synonymy of several species; his critical remarks have been instrumental in the correction of some errors on my part.

The number of new species included in this Supplement is twenty-six, divided as follows:

MANTICA	1
STYPHLODERMA	1
BOSTRICOPHORUS	2
CICINDELA	7
COSMEMA	5
MYRMECOPTERA	10

Three species which were thought to be valid have been sunk in synonymy.

The corrections are:

*Cicindela chrysographa*, Dej. = *C. barbifrons*, Bohem., is not a variety of *C. capensis*, but a distinct species.

*Cicindela tereticollis*, Bohem., does not belong to the sub-genus *Euryoda* (p. 57), but is a true *Cicindela*.

*Megalomma limbigera* must also be included in the genus *Cicindela*.

*Cicindela centropunctata* is synonymous with *C. Dregei* and not with *C. disjuncta*.

*Cicindela securicornis*, Horn, is synonymous with *C. longula*.

*Cosmema brevipenis*, Pér., and *C. intermedia*, Horn = *C. elegantula*, Bohem.

*Myrmecoptera tenella* is a *Cosmema*.

*Myrmecoptera limbata* and *M. Saundersi* are the same species.

The number of genera is now fourteen, but that of the species and varieties recorded is now 144, a number which can bear comparison with any part of the globe of an area equal to that of South Africa.

## TRIBE MANTICHORIDES.

### GEN. MANTICHORA, Fabric.

#### MANTICHORA FEROX, Pér.,

#### Descriptive Catalogue, p. 17.

I was not aware at the time I described *M. ferox*, and had it figured (pl. 1, fig. 1), of Boucard's description of *M. Gruti* in the 'Humming Bird,' June, 1892, p. 45. Although I have not seen the original example now in the Tring Museum, I also agree with Dr. Horn \* that *M. Gruti* and *M. ferox* are probably the same species.

\* Deutsch. Entom. Zeitung, 1894, p. 307.

GEN. MANTICA, Kolbe,  
Ent. Nachrichten, 1896, p. 5.

“Allied to the genus *Mantichora*, but the body is slender; the head hardly ampliate; the prothorax somewhat narrow and without any lobe; the elytra are not ampliate; antennæ long, setaceous; eyes small; labrum truncate, slightly sinuate near the angles and obtusely denticulate; mandibles rather small, similar to those of the female *Mantichora*, and tridentate inwardly; the two frontal carinæ near the eyes are indistinct; the median tooth in the mentum is short, plane, not projecting, and with the tip sinuate; prothorax convex, narrowed in front and behind, with the sides a little rounded, slightly narrow behind, with the posterior part of the disk not lobate and the posterior margin little sinuate; elytra convex, scabrous, moderately plane and smooth on the disk; epipleuræ moderately smooth in the anterior part, well defined, scabrous behind, and not separated from the dorsal part; legs slender; tarsi thin, elongated, longer than the tibiæ in the posterior legs, the anterior ones not dilated in the male; the four basal segments of the abdomen convex and separated deeply from one another by a sulcus.

This remarkable genus connects the isolated genus *Mantichora* with the other genera of the family; it has not the extraordinary shape of the former, but its close relationship is clearly noticeable. The head, mandibles, and prothorax are of the *Cicindela* type, with some approach to *Mantichora*, with which it has in common small eyes, otherwise the head is comparatively much smaller; the mandibles are shorter and both of equal length in the male—the only sex known—instead of being bent almost at right angles, as in *Mantichora*, in which the right one is also the longest; the prothorax does not show the aberrant shape with the two posterior projecting lobes on the upper side; the elytra are considerably narrower, and the sides are less distinctly marginate.

*Mantica* has a more slender facies than *Mantichora*; the head and prothorax are narrower and smaller; the elytra longer, narrower, and more convex; the mandibles of the male are shaped like those of the female *Mantichora*, and are of moderate length, less curved, armed inwardly with three sharp, large teeth, and without smaller ones; the labrum is nearly edentate, emarginate, with the anterior angles bluntly acuminate; the eyes are small and moderately convex, as in *Mantichora*, deviating, therefore, from the usual type; antennæ as long and as filiform as in *Mantichora*. The median tooth in the mentum is, however, quite aberrant in shape; it does not project strong and sharp, but is weak, flat, emarginate at end, shorter than the lateral lobes, and shaped as in the majority of the *Cicindelidæ*.”

MANTICA HORNI, Kolbe,

Ent. Nach., 1896, p. 7.

“Slender, deep black, shining; body and legs with erect, scattered hairs; elytra moderately broad; head glabrous, smooth, hardly punctured; prothorax punctate in front and laterally; elytra very rough and with carinate tubercles larger than in the species of the genus *Mantichora*; the anterior median part of the disk and also the anterior part of the epipleuræ are moderately smooth, the former here and there with sparse, minute tubercles, the latter with scattered, nearly obliterated punctures; on each side of the apical part there is a single longitudinal serrate ridge, slightly oblique, and reaching the apex. Length 29 mm.”

*Hab.* Great Namaqualand (Han-ami Plateau).

## TRIBE MEGACEPHALIDES.

GEN. STYPHLODERMA, Waterh.,

Ann. and Mag. Nat. Hist., 1877, xx., p. 424.

“General characters of *Tetracha*; apical joint of the palpi much more securiform than in *Tetracha*; elytra rather depressed, elongato-ovate; shoulders completely effaced; wings none; anterior tarsi of male with the first three joints only slightly dilated; posterior tibiæ with two or three slight grooves above; abdomen with seven segments in the male, the penultimate segment emarginate.

The anterior tarsi in the male of this insect resemble those of *Megacephala*, with which it agrees also in being apterous; but in its other characters it agrees more nearly with *Tetracha*. From this latter it differs in the form of anterior tarsi, in being apterous, and in having the apical joint of the palpi much more securiform.”

STYPHLODERMA ASPERATUM, Waterh.,

*Loc. cit.*, p. 424.

“Head nearly smooth, with a shallow metallic impression at the base of each antenna; cheeks green; thorax rather narrower than the width of the head across the eyes, convex, narrowed at base; the anterior and posterior borders metallic, sprinkled with roundish tubercles; the disk gibbous. There is an obtuse tooth at the side, just before each posterior angle; the base is gently arcuate, not lobed in the middle; elytra narrower at their base, dull black, slightly tinged with blue, the surface densely covered with conical tubercles which are directed backwards; each elytron has a small rusty or white spot near the base, and another near the apex; the elytra are connate. Length  $10\frac{1}{2}$  lin.; width 4 lin.”

“A female example has the elytra more ample, immaculate, and the sutural angle blunted.”



I have given Mr. Waterhouse's description of this very interesting genus, which, recorded from Lake Nyassa and Mpwapwa in Eastern Africa, has been met with in Zambezia, fifteen miles from Salisbury, near the Hangani River. I have not had the specimens sent yet for identification, but the clear and careful description sent by my correspondent leaves no doubt about the identity of both genus and species.

## TRIBE CICINDELIDES.

### GEN. BOSTRICOPHORUS.

#### BOSTRICOPHORUS LIEUGMEI.

Shape, size, and colour of *B. Bianconi*; labrum, antennæ, head and prothorax similar; elytra with a basal, comma-shaped bright yellow patch on each side of the scutellum, and a sutural band connected at the base with the juxta-scutellary one and reaching to one-third of the length; in the median part, and close to the suture, a small, round dot, and in the posterior part a moderately broad marginal band reaching from the suture to the outer margin. Length 15 mm.; width  $5\frac{1}{4}$  mm.

This species is easily distinguished from *B. Bianconi* by the apical marginal yellow band of the elytra, which is totally absent in *Bianconi*; the median, or rather slightly post-median dot, is identical, but the two basal comma-shaped spots have coalesced at the base, and the juxta-sutural has become a long band reaching a little short of the median part; the antennæ are similarly compressed, the fifth and sixth joints dilated in the same manner, and the fascicle of hairs under the fourth joint in the male is identical with that of *Bianconi*.

*Hab.* Captured at Mandlakas, on the Lower Limpopo (Mozambique), by Dr. Lieugme.

#### BOSTRICOPHORUS EGREGIUS.

Very dark bronze on the upper part; under side and legs violaceous-blue; palpi yellow, with the apical joint green; labrum convex, yellow, with three setigerous punctures; head strigose, with a few decumbent hairs; antennæ with the four basal joints filiform, the others slightly compressed and subfoliate, the fourth one with two setæ underneath; prothorax cylindrical, shagreened, impressed transversely at base and apex, grooved in the centre, and with a few scattered white hairs; elytra parallel, somewhat convex, spinose at the apex of the suture, opaque with irregular series of punctures, and with the following yellow markings on each side: a yellow infra humeral spot, a comma-shaped one under the scutellum, a post-median sinuated discoidal patch, an apical supra-marginal band, and two minute dots on the disk at equal distance from the base and the post-median discoidal patch. Length 13 mm.; width 4 mm.

*Hab.* Zambezia (Salisbury, Buluwayo).

Shape and size of *B. notatus*, Bohem., with the joints of the antennæ not broader, and the tuft of hairs under the fourth joint similar; markings of the elytra very different.

This species should follow *B. notatus* in the systematic arrangement. Although, strictly speaking, *B. Bianconi* and *B. Lieugmei* should solely be included in the genus *Bostricophorus*, I feel myself quite justified in including in this genus such species the males of which have a fascicle of hairs under the fourth joint of the antennæ, and which said joints, with the exception of the four basal ones, are more or less subfoliate and compressed. These characters are certainly more developed in *Bianconi* and *Lieugmei* than in other species from South or West Africa, but there could be no excuse in ignoring the affinity of the other species I include in this genus.

#### OPHRYODERA COMPRESSICORNIS, Bohem.,

Catal., p. 24.

Having now been able to examine both sexes of *B. compressicornis*, Bohem., I find that this species belongs to the genus *Ophryodera*, Chaud., and not to *Bostricophorus*, Thoms., as I stated.

In some examples the background of the elytra has many, very short, pale yellowish lines in both sexes, more marked in the male, while in others these small lines, or, rather, narrow elongate spots, are almost absent.

*Hab.* Zambezia (Mazoe, Salisbury, Buluwayo).

#### GEN. CICINDELA.

##### SECTION A.

Mandibles moderately long; elytra much amplified from below the humeral angle, with a narrow longitudinal dorsal line, and four narrow, short bronze maculæ . . . . . *alba*.

Mandibles short; elytra not much amplified, with a bronze suture, and three small maculæ placed longitudinally on each side . . . . . *barbifrons*.

Elytra with no bronze markings, the suture coppery . . . . *marqueza*.

#### CICINDELA ALBA, Horn,

Deuts. Ent. Zeit., 1894, p. 112.

Head and prothorax coppery, covered with very thick, decumbent white hairs; labrum yellowish-white, with three punctures on each side, two close to one another in the median part, and one near the outer angle; the four basal joints of the antennæ coppery, the others flavescent; mandibles rather long, but not so much as in *C. capensis*; elytra much amplified from below the shoulder to the apical part,

hardly convex, almost cretaceous-white, with a narrow juxta-sutural longitudinal bronze line reaching on each side from the base to four-fifths of the length, and four elongate, narrow maculæ running parallel to the dorsal line, and totally disconnected with it; the suture is brassy, and the under side and legs are entirely clothed with dense white hairs, leaving no denuded space on the abdomen. Length 13-14½ mm.; width 5 mm.

CICINDELA CHRYSOGRAPHA, Dej.,

Spec. Coleop., 1831, v., p. 254.

*C. barbifrons*, Bohem., Insect. Caffr., i., 1848, p. 12.

Head and prothorax coppery-green, glowing red underneath; head nearly denuded in the centre, with two fascicles of white hairs on each side of the anterior part; the three first joints of the antennæ brassy and with a long white pubescence, the other flavescent; labrum yellowish-white, convex in the centre, with two punctures on each side of the median part, and one in the outer angle; prothorax covered with white decumbent hairs, thicker laterally than on the disk; elytra moderately amplified in the female, less so in the male, hardly punctulate, whitish opaque, and having on each side three small discoidal maculæ arranged longitudinally, the anterior one elongate, the median slender and short, the third one placed at some distance from the apex is subovate; the suture and the extreme margin are coppery; under side and legs coppery-green, sides of pectus and abdomen with a dense white pubescence. Length 10 mm.; width 5 mm.

*Hab.* Natal (D'Urban, Tsipongo).

CICINDELA CHRYSOGRAPHA.

Var. MARQUEZA.

Head and prothorax coppery, glowing red underneath, the former with two fascicles of white hairs on each side; the three first joints of the antennæ greenish and with a long white pubescence, the others very flavescent; labrum yellowish red, convex in the centre, with two punctures on each side of the median part and one in the outer angle; prothorax covered with scattered white decumbent hairs; elytra moderately amplified below the shoulder in the female, creamy white with a tinge of very light brown admixed and without any trace of bronze markings; the suture, however, is bronzy; under side bronze, shining, the lateral parts thickly covered with white hairs. Length 11½-12 mm.; width 4¾-5 mm.

*Hab.* Mozambique (Delagoa Bay).

In Natal only males without any trace of bronze markings on the elytra have been met with, congregating with the typical *C. chrysographa*, but in Delagoa Bay both males and females have the elytra creamy white and without markings. Both species and variety do not occur far from the seashore.

This species may prove to be only a variety of *C. chrysographa* without any markings on the elytra.

#### SECTION D.

CICINDELA PUDICA, Bohem.,

Catal., p. 43.

Var. SUFFUSA.

Labrum, head and prothorax as in the type; elytra elongated and with the marginal band and rami coalescing, invading all the disk from the shoulder, leaving in the anterior part only a semicircular patch of the bronze background on which the basal elongated spot is discernible, as is also the anterior one along the suture, while the second is much longer than in the type and separated from the yellowish white of the elytra by a very slender bronze line. Length 13 mm.; width 5 mm.

*Hab.* Orange Free State (Hoopstad).

It is worthy of notice that the examples of *C. pudica* var. *hypocrita* found in that district have the outer marginal band and dorsal rami broader than in specimens from other localities.

#### SECTION H.

CICINDELA CENTROPUNCTATA, Dej.,

Catal., p. 49.

*C. Dregei*, Mannerh., Bull. d. Mosc., 1837, p. 16.

Having received a typical example (female) from Dr. Horn, I find I was wrong in considering *C. centropunctata* as identical with *C. disjuncta*. It is, however, the same species as *C. Dregei*, Mannerh., the description of which was published six years later.

#### SECTION I.

CICINDELA LONGULA, Pér.,

Catal., p. 53.

*C. securicornis*, Horn, Deuts. Ent. Zeit. 1892, p. 84.

Dr. Walter Horn having communicated me his type of *C. securicornis*, I find it to be the male of *C. longula*, the female of which alone was known to me at the time I wrote the Catalogue. Whereas in this species the three ultimate joints of the antennæ are slightly



securiform in the male, in the female they are almost normal, although slightly triangular.

*Hab.* Cape Colony (Riversdale, Fraserburg).

CICINDELA LAPHYRICORNIS, Horn,

Catal., p. 95.

This species is most closely allied to *C. marginella* var. *inanis*, Wallengr, but the elytra are not quite so parallel even in the male, and the short spurs emitted laterally by the margin are broader, and very distinct in all the specimens I have seen; the two apical joints of the antennæ of the male are thickened, and the penultimate one triangular, whereas in the male of *inanis* they have the normal shape, but those of the female of both species are identical. In Dr. Horn's type (a male) the dilatation of the two ultimate joints of the antennæ is more marked than in the nine examples I have seen.

The habitat of var. *inanis* as given in the Catalogue must be modified, the specimens from Natal (D'Urban) and Barberton in the Transvaal being *C. laphyricornis*.

SECTION J.

Elytra elongate, each elytron with a moderately broad margin emitting three short rami, and with three round dots close to the suture, the posterior one nearly connected with the median ramus .. .. .

*Mashuna.*

Elytra elongate, each elytron with a broad marginal band bluntly tridentate, a posterior discoidal spot and a dorsal longitudinal series of broad punctures; basal joint of the labial palpi much swollen .. .. .

*limbigera.*

CICINDELA MASHUNA, Pér.,

Trans. Entom. Soc. Lond., 1894, p. 448.

Obscure bronze on the upper part, with the under side of the prothorax glowing-red, and the abdomen dark blue; legs glowing-red with the tarsi green; labrum elongate, convex, tridentate at the apex, white, and with two setigerous punctures on each side, one near the median tooth, the other near the outer angle; head aciculate, with a few white decumbent hairs; prothorax short, quadrate, rugose, covered with white decumbent hairs; elytra elongate, sub-parallel, finely granulose, and having on each side a moderately broad pale-yellow marginal band, sending out three short, blunt rami, and also three round spots of the same colour on each side of the suture, the posterior one of which is nearly connected with the apex of the median marginal ramus, but the median one is not at all connected with the humeral ramus, and the basal one is placed far

above it; the marginal band and also the dorsal round spots are edged with dark bronze. Length 10 mm.; width 3 mm.

This species, which might be taken at first sight for a variety of *C. marginella*, Dej., is easily distinguished by having a sub-basal spot on each side of the suture, which could not be the interrupted end of the lateral humeral ramus, whereas the other two spots following the sub-basal one might be the continuation of the two lateral spurs.

*Hab.* Zambezia (Salisbury).

#### CICINDELA LIMBIGERA, Pér.,

Catal., p. 60.

I had placed among the *Megalomma* the *Cicindela limbiger*a, owing to the very swollen shape of the basal labial palpi as well as the absence or nearly so of white hairs on the lateral part of the under side. I think, however, that this species should be included in the sub-genus *Cicindela*.

I have placed this species temporarily on the same group as *C. Mashuna*.

#### SECTION K.

Elytra set with hairs \* . . . . . *tereticollis*.

#### SECTION L.

Elytra elongate, black, each one with two short transverse yellow patches, one juxta-sutural posterior spot, a comma-shaped posterior band coalescing along the margin with an apical marginal band . . . . . *Marshalli*.

#### CICINDELA MARSHALLI.

Head and prothorax dark greenish bronze; labrum convex carinate in the middle in the male, acutely quinque-dentate, with two setigerous punctures on each side of the median part, and one in the outer angle, black in the anterior part with a transverse moderately broad yellow basal band; prothorax very rugose, with the outer sides hardly ampliate, and one-fourth longer than broad; elytra elongate with outer sides straight, one-fourth broader behind than at the base, posterior margin not serrulate; black with a somewhat velvety sheen, with the punctures showing green in some places, and a series of greenish blue deeper punctures reaching on each side of the suture from the base to about the median part, sometimes to the apex, and a few scattered ones close to the shoulders, and having on each side a yellow discoidal spot at about the median part, an elongated transverse patch, and at the apex two spots; the outer one,

\* Dr. Horn has justly called my attention to *Cicindela tereticollis*, Bohem., not being an *Euryoda* as I stated, *loc. cit.* p. 57, but a true *Cicindela* belonging to a special African group in which the elytra are pubescent, and the antennæ subfoliated.

the longest of the two, is comma-shaped and coalesces along the margin with an apical marginal line, while the inner one is more or less ovate and moderately close to the suture; under side and legs cyaneous; lateral part of abdomen not thickly covered with hairs; anal segment rufescent. Length 12–13 mm.; width  $4\frac{1}{2}$  mm.

*Hab.* Zambezia (Salisbury).

In one of my examples the anterior yellow patch on the elytra has disappeared, and the external posterior patch does not quite coalesce with the apical yellow margin.

The livery of this species is very different from that of any other South African *Cicindela*; the facies is also slightly dissimilar.

#### SUB-GEN. PRODOTES.

##### PRODOTES MIMULA.

Shape, size, and colouring of *P. fatidica*; the labrum is more broadly infusate at the tip, the head and prothorax are similar, the elytra are a little more ampliate and not serrulate behind, black, mottled with small round velvety patches; the diagonal dorsal band is very narrow, extends from the shoulder to two-thirds of the length, and emits in the median part a slender ramus which reaches near to the outer margin, the two juxta-sutural yellow spots on each side of the suture are very small, and the supra-marginal posterior band is very narrow and is surmounted by a narrow crescent-shaped patch; under side and legs cyaneous. Length 15–16 mm.; width 5–6 mm.

*Hab.* Zambezia (Salisbury).

#### GEN. COSMEMA,

Catal., p. 81.

My arrangement of *Myrmecoptera*, vid. Catal., p. 61, will be improved by including in this genus *Dromica clathrata*, *D. pseudo-clathrata* and *D. grandis*, leaving in *Dromica* proper only such species as have filiform antennæ and quadrate prothorax with two protuberances on each side of the disk; type *D. sculpturata* and *D. tuberculata*.

Strictly speaking, the genus *Dromica* was created for *D. coarctata*, which is a *Cosmema*, and I should have felt inclined to restrict to *Dromica* all the species I have placed in *Cosmema*, had not Dejean himself in his 'Supplément au Species Général des Coléoptères,' vol. v. pp. 269–270, included in *Dromica* another *Cosmema*, *C. vittata*, as well as *Dromica tuberculata*.\*

The species included in *Cosmema* are more closely allied to many of the *Myrmecoptera* of the slender type than to *Dromica*, and it will

\* Dejean's description appeared in 1831, while Hope's description and figure were published in 1832.

probably be better to sink the three genera in synonymy and consider them as mere sections of *Dromica*.

GEN. DROMICA, Dej.

SECTION A.—COSMEMA.

SECTION B.—MYRMECOPTERA.

SECTION C.—DROMICA.

SECTION A.—(COSMEMA.)

A., p. 82. Elytra with three oblong supra-marginal spots on each side, the posterior outer angle produced in a small spine in the female, the four median joints of antennæ subcompressed . . . . . *dolosa*.

D., p. 83. Elytra pitted and with a white marginal band sending past the middle a short slanting spur.

Dorsal part depressed, sutural part almost transversely plicate, a bright metallic sheen on each side of the suture . . . *miranda*.

Dorsal part not depressed, sutural part irregularly punctured, no sheen along the suture, which is highly carinate . . . *aspera*.

E. Elytra with the anterior part deeply pitted, each with a narrow apical supra-marginal band . . . . . *transitoria*.

F. Elytra with a dorsal, round, white spot in the posterior part, a small humeral lateral band, and another one running from the median part to the outer apical angle . . . *gloriosa*.

COSMEMA DOLOSA, Pér.,

Trans. Entom. Soc. Lond., 1894, p. 452.

Dark bronze, with a greenish tinge; the lateral parts of the elytra cyaneous; under side and legs dark greenish blue, tibiæ rufescent; antennæ subcompressed and slightly foliate; head finely strigose diagonally; labrum black, with the apical part somewhat yellowish in the male, totally black in the female; prothorax narrow, cylindrical, constricted behind, finely transversely plicate; elytra elongated, covered with deep, closely set, moderately broad punctures, convex, with the sutural part ending in two short spines on each side, as in *C. lepida*, Bohem., but much shorter, and having on each side three ovate, supra-marginal white spots, the first one humeral and very small, the median one a little elongated, and the posterior one ovate. Length 10 mm.; width 3 mm.

This species, owing to the tendency of the antennæ to become compressed and subfoliate, connects *Cosmemma* with *Myrmecoptera*; like *C. lepida*, it has two spines on each side of the suture, but these spines are not so much developed; the supra-marginal white markings are not unlike those of *C. elegantula*, Bohem., but in *C. dolosa* the posterior one is a round or ovate patch, not a white line or band.

*Hab.* Zambezia (Salisbury).



## COSMEMA MIRANDA.

Bronze, with a green sheen on the head and prothorax, dark blue-black underneath; labrum white narrowly margined with black, and slightly infuscated at the base; head strigose; prothorax short, a little broader in front than behind, where it is nearly as broad as long, deeply impressed transversely in the anterior and posterior part, each side of the disk slightly raised, plicate with the folds very irregular; elytra elongato-ovate, amplified past the middle, moderately convex, but broadly depressed on each side of the suture, closely but not deeply punctured, bronze, with the depression on each side of the suture a brilliant green sheen, and with a supra-marginal narrow white line reaching from base to apex, and emitting past the middle a short slanting spur; sutural spines short, moderately long; legs glowing red. Length 15 mm.; width 5 mm.

*Hab.* Orange Free State (Ventersburg).

The facies is that of *C. marginella* and *C. connexa*; the depression on each side of the suture is well defined, as in the last-named species; the sculpture of the elytra is the same; the spur emitted inwardly is not unlike that of *C. hamata*, but it is more slender and also a little shorter.

## COSMEMA ASPERA.

In shape, size, and sculpture this species is very closely allied to *C. miranda*, the shape and sculpture of head and prothorax is the same; the labrum is yellowish white in both sexes, but the difference between the two is found in the sculpture of the elytra of the female, which are a little more roughly punctured, and thus appear more rugose from the suture to the outer side, while in *C. miranda* the space with the green sheen on each side of the suture is so equally punctured as to give it the appearance of being closely and transversely plicate (this is probably the cause of the dorsal shining green bands); the dorsal juxta-sutural part is also more depressed in *C. miranda* than in the present species, in which the suture is also much more acutely raised; it is also more convex from the median part towards the apex; the colour is the same, but there is no greenish sutural band; the supra-marginal lateral yellowish-white band is slightly broader than in *C. miranda*, and the inward spur nearly similar, but the band is not so much in relief and is punctured instead of being smooth; the male is very narrow, the elytra being almost parallel from the humeral slope to a short distance from the apex; the punctures are equally rough at base and apex; the suture is carinate and ends at the apex in two long, parallel spines; the supra-marginal yellowish-white band is proportionately as broad as in the female, but the inward spur is

very blunt, hardly projecting; under side and legs violaceous blue. Length  $11\frac{1}{2}$ –15 mm.; width  $3\text{--}4\frac{1}{2}$  mm.

*Hab.* Cape Colony (Graaff-Reinet).

COSMEMA CITREO-GUTTATA, Chaud.,  
Catal., p. 85.

I have received from Escourt and the Tugela River (Natal) several examples of this species, in both sexes of which the humeral broad yellow patch is reduced to a mere dot, but similar in other respects to De Chaudoir's types.

COSMEMA ELEGANTULA, Bohem.,  
Catal., p. 87.

Having received lately several examples of *C. elegantula*, and from the same locality where the original types were first captured, I find that the humeral spot is missing in the female, and occasionally very small in the male. My *C. brevipennis* proves to be a female of *elegantula* without any humeral white spot, and *C. intermedia* of Horn, identical with my *C. brevipennis*; of this I have no doubt. Dr. Horn has sent me his type for comparison, and the synonymy of this species is thus:

COSMEMA ELEGANTULA, Bohem.,  
Insect. Caffr., i., 1848, p. 84.

*C. intermedia*, Horn, Deuts. Ent. Zeit., 1892, p. 68.

*C. brevipennis*, Pér., Catal., p. 87.

COSMEMA COARCTATA, Dej.,  
Catal., p. 91.

In the example which I compared to Dejean's type, and which was absolutely similar, according to my notes, the lateral yellowish band of the elytra was not interrupted and emitted a short spur directed inwardly at about two-thirds of the length, but I have seen since several examples in which this band is interrupted, agreeing in this respect with the original figure (Iconogr. Coleop. d'Europe, pl. i., fig. 5), and the inner spur is longer and more curved, whether the band is interrupted or not.

*C. coarctata* is closely allied to *C. vittata*, Dej., and differs from it merely by the lateral band, which is narrower and reaches nearer to the margin than in *C. coarctata*, but it is as closely allied to *C. hamata*, which is, however, smaller, the elytra are more ovate, and the lateral band, which is also uninterrupted occasionally, is much narrower than in *C. coarctata*.

COSMEMA TRANSITORIA.

Black, opaque, or nearly so on the upper part, dark blue under-

neath; labrum (male) yellowish, apical margin narrowly infusate; neck and prothorax closely and finely plicate transversely, the latter slender, cylindrical, hardly grooved longitudinally in the middle; anterior and posterior transverse impressions not deep; elytra very narrow at the base and without any humeral angles, a little amplified from the middle to the apex; suture not much raised; apical part ending in a short diverging acute spine on each side, closely, deeply, and regularly pitted from the base to about the median part, and closely punctured from there to the apex; on each side of the apical part there is a short narrow supra-marginal or almost marginal yellowish band reaching nearly the base of the posterior spine; legs dark blue, knees and anterior tibiæ slightly rufescent. Female unknown. Length 13 mm.; width 3 mm.

The description of *C. granulata*, Dokt., applies to this species, but the elytra are deeply pitted in the anterior part, and not granulated.

*Hab.* Mozambique (Tembé).

#### COSMEMA GLORIOSA.

Brassy, shining on the upper part, under side bright steel-blue; legs metallic blue; head strigose; labrum yellowish, with the base and apex edged with black, but with the median part very faintly infusate longitudinally; head strigose; antennæ black, with the four basal joints cyaneous; prothorax very narrow, quite cylindrical; elytra elongate, much amplify past the middle (female) broadly punctured with the punctures closely set, and having on each side of the posterior part a small, round, discoidal whitish spot, as well as supra-marginal, humeral, short white band, and another and broader one running from a little above the median part to the outer angle of the apex.

In shape and colour this species resembles much *Myrmecoptera nobilitata*, Gerst., from Lake Jipe (Zanzibar mainland), but is distinguished by having filiform instead of foliate antennæ; the lateral white band is also somewhat different. Its nearest South African ally is *Cosmema tenella*.

Judging from the shape of the supra-marginal white band, I am inclined to believe that in some specimens the posterior part will be disunited from the median. Length 16 mm.; width 5 mm. Male unknown.

*Hab.* Zambezia (Buluwayo).

#### SECTION B.—(MYRMECOPTERA.)

##### GROUP 2. Vid. Catal., p. 62.

Neck very slender; elytra with a humeral and apical white patch and a median one uniting with a discoidal spot . . . *angusticollis*.

## GROUP 4.

Elytra foveate on the disk, each one with five raised lines reaching from the base to apex . . . . . *Mashuna*.

Elytra very elongate, with a white line on the second costa and an elongate sutural apical white patch . . . . . *nima*.

Elytra very rugose, each one with five raised lines, a long white band of the second costa and a broad, triangular, apical white patch on each side . . . . . *invicta*.

Elytra very rugose, with the first and second costæ on each side united by wavy transverse folds, and having a long white line in the third interval and a supra-apical subtriangular white patch . . . . . *formosa*.

Prothorax with a greyish, pubescent median band; elytra with a basal white line on the second interval, and a transverse patch of the same colour a little below the median part . . . *Marshalli*.

Prothorax with a median longitudinal pubescent white band; elytra sub-alveolate, shagreened behind, a long basal white line on the second costa, and a posterior marginal one reaching the suture . . . . . *umfuliana*.

Prothorax without a median pubescent white band; elytra broadly foveate; foveæ reticulate transversely; a short basal white line on the second costa, and a posterior marginal band not reaching the suture . . . . . *dissepta*.

## MYRMECOPTERA ANGUSTICOLLIS, Pér.,

Trans. Entom. Soc. Lond., 1894, p. 448.

Dark metallic blue, moderately shining on the upper part, under side cyaneous; labrum white, narrowly edged with black in the male, broadly in the female; joints of antennæ foliate from the fifth to the apical one; head strigose; prothorax very narrow, cylindrical, nearly twice as long as broad, very slightly narrowed in front and behind, and finely plicate transversely: elytra very narrow at the base, gradually amplified from the base to two-thirds of the length, convex, with the sutural part ending on each side in a spine, longer and sharper in the male, broadly and deeply pitted, with the punctures deeper in the interior part, and having on each side a white humeral narrow band, a discoidal transverse post-median band narrowed in the centre, and reaching from the outer margin to two-thirds of the width of the disk, and a supra-marginal narrow longitudinal band of the same colour reaching from the rounding of the posterior part to the apex; legs cyaneous, with the knees slightly reddish. Length  $12\frac{1}{2}$ –13 mm.; width  $3$ – $3\frac{1}{4}$  mm.

In shape, size, colour, and sculpture this species resembles much *M. spectabilis*, Pér.; the joints of the antennæ in *M. angusticollis* are foliate from the fifth to the apical one, whereas in *M. spectabilis* only the fourth, fifth, and sixth joints are foliate; the prothorax is still narrower than in the last-named species, and the punctures on the elytra are not so broad; the humeral white band is similar, but



the posterior one is shorter, and does not unite with the transverse discoidal one.

*Hab.* Zambezia (Salisbury).

MYRMECOPTERA FOVEOLATA, Pér.,

Catal., p. 64.

Having received further specimens of this handsome *Myrmecoptera*, I am able to give a new description of both sexes; I had described the species from male examples.

Dark metallic blue-black on the upper part, cyaneous on the outer sides of prothorax, outer margin of the elytra, and underneath; labrum white in the male, with a basal infuscation broadly infuscated in the centre and laterally in the female; antennæ black, with the four basal joints cyaneous; head strigose with a brassy sheen; prothorax cylindrical, one-third longer than broad, constricted at the base and with the discoidal part hardly raised, plicated transversely, the folds moderately broad but very conspicuous; elytra elongated in the male, and ending in two sharp, long spines, amplified past the middle in the female, in which the apical spines are very short but sharp, deeply and broadly pitted from base to apex, the punctures in the posterior part a little narrower than in the anterior, and a discoidal series of small brassy alveolæ reaching on each side from the base to slightly past the middle; the male has a supra-marginal humeral white band, a small median and a posterior one reaching from the posterior angle to the apex; the humeral line reaches sometimes the median one, and I have seen one example in which the median and posterior bands had entirely disappeared, and the humeral one was very short; in the female both the humeral and median bands have disappeared, only the posterior one is left, and I have even seen an example without any supra-marginal markings whatever. There seems to be as much variation of the white supra-marginal markings in this species as in *C. Gruti*, and this apparently in examples found in the same locality; these markings in the type (from Damaraland?) are considerably narrower than in the examples from the Free State, and shorter; females will likely be found to have more than one (a postical) white band.

*Hab.* Orange Free State (Hoopstad).

If the shape of the antennæ alone was taken into consideration (the fifth, sixth, seventh, and eighth joints are merely compressed, not subfoliated), *M. foveolata*, and perhaps *M. variolata*, Chaud., should be included into the group *Cosmema*, as also *C. dolosa*, as I state further on, but the shape of the elytra connects *foveolata* with *M. bilunata* and others included in my group No. 2, whereas *dolosa* is more like *lepidula*, *gilvipes*, &c.

## MYRMECOPTERA LIMBATA, Bertol.,

Catal., p. 65.

Having been able to examine several examples of this species collected in Mozambique, I am led to the conclusion that *M. Saundersi*, Chaud., is the male of *M. limbata*; in some of the males the subhumeral lateral dot on the elytra is slightly noticeable, while it has become quite obliterated in others; in the female this spot is not quite obliterated, and in many cases it is very conspicuous; the dorsal patch is also smaller and rounder in the male than in the female.

*Hab.* Mozambique (Tembé).

## MYRMECOPTERA UMFULIANA.

Black, with a slight æneous tinge on the upper part; very dark blue underneath; elytra a little more opaque than the head and prothorax; labrum with a median longitudinal whitish band in the male, totally black in the female; head strigose; prothorax sub-cylindrical, longer than broad by one-fourth, deeply constricted behind, thus making the discoidal part look much raised, plicate transversely, broadly and deeply grooved longitudinally in the middle, and with the groove filled with a dense white pubescence; elytra elongate and very little ampliate past the median part in the male, and with a long sharp apical spine on each side of the suture, elongato-ovate in the female, and with the apical part of the suture nearly blunt; they have on each side five raised, very slightly wavy lines, the two discoidal ones of which reach to about two-thirds of the length, while the juxta-sutural and the two outer ones are produced a little further; the intervals are foveate, the foveæ deep but narrow, and the apical part is roughly shagreened; on each side there is a narrow yellowish band running on the second costa from the base to about fifth of the total length of the elytra, and an apical marginal one, not broader than the dorsal one, and ascending from the suture to about one-third of the length.

In the female the alveolæ of the intervals of the elytra are not so deep as in the male.

Allied to *M. costata* and *M. Bertolonii*; it differs from the former in the shape of the prothorax, which is much broader and also more roughly plicate, while the intervals of the elytra are much less deeply foveate than in the latter; it is easily differentiated from both by the basal dorsal white line. Length 20–21 mm.; width 5–7 mm.

*Hab.* Zambezia (Umfuli River).

## MYRMECOPTERA DISSEPTA.

Black with a faint æneous tinge; elytra shining; under side and legs very dark blue; labrum entirely black in the female; head

strigose; prothorax subcylindrical, broad, plicate transversely, and having a median longitudinal glabrous groove more brassy than the sides; elytra elongato-ovate, convex, and ending in a short apical sutural tooth on each side (female); they have on each side five slightly wavy raised lines reaching from the base to three-fourths of the length; the intervals are deeply foveate, the foveæ transverse and reticulate; the apical part is roughly shagreened; on each side there is on the basal part of the third interval a short, narrow, yellowish band, and a posterior marginal white line running parallel to the apical shagreened part, but not reaching the suture.

Less elongate than *M. Bertolonii*, and with the prothorax a little broader and more roughly plicate; it is distinguished from it by the reticulate foveæ in the intervals of the elytra; the posterior marginal white band is similar, but *M. Bertolonii* has no trace of the basal dorsal yellowish white band, which is not, however, very distinctly defined in *M. dissepta*. Male unknown. Length 21 mm.; width 6 mm.

*Hab.* Zambezia (Umfuli River).

MYRMECOPTERA MASHUNA, Pér.,

Trans. Entom. Soc. Lond., 1894, p. 449.

Black, moderately shining, with a bluish tinge on the head and prothorax, elytra dark bronze; labrum black, with a median yellowish white patch in the male, this patch being hardly distinct in the female; head conspicuously plicate; prothorax cylindrical, longer than broad, distinctly constricted in front and behind, and transversely plicate; elytra elongated, gradually amplified from the base to about two-thirds of the length, convex, the male with two long sutural spines, the female without any and having on each side five long raised lines, the outer two reaching from the base to about three-fourths of the length, the three discoidal ones somewhat shorter, apical part shagreened, intervals broadly foveate, the foveæ with a golden sheen, no supra-marginal white spot or band; as a rule under side and legs very dark blue. Length 17–19 mm.; width  $4\frac{1}{2}$ –6 mm.

Very closely allied to *M. polyhirmoides*, Bates; the shape and size are similar, but the elytra have no white markings. I have seen a male caught in copulâ with a female of *polyhirmoides*, which my correspondent informs me is very much rarer, but is found in the same locality; it is, however, possible that the said female may have been a *polyhirmoides* without any white markings, for I have seen a male of that species without the apical sutural patch, and with the dorsal white line partly obliterated.

*Hab.* Zambezia (Salisbury).



## MYRMECOPTERA MIMA.

Black, moderately shining with a bluish tinge on the head and prothorax, dark blue underneath; labrum with a median pale longitudinal yellow band in the centre, broad in the male, narrow and not reaching the apex in the female, prothorax cylindrical, slightly constricted in front and behind and transversely plicate; elytra very elongate, slightly ampliate in the female, but a little attenuate behind in both sexes; they have on each side five costæ, the four dorsal ones of which act as lateral walls to three series of broadly reticulate foveæ having often a brassy sheen; on the second costa runs a white line reaching from the base to one-third of the length in the male, and considerably less in the female, and there is a narrow, elongate sutural white patch at the apex. Length 20–22 mm.; width 5–6½ mm.

Allied also to *M. polyhirmoides*, but different in the shape of the elytra, which are longer, more ovate from the median part to the apex in the male and less ampliate in the middle in the female; the sculpture is the same and the apical sutural patch is narrower.

*Hab.* It is by mistake that I have given the habitat of Fort Tuli in Zambezia to *M. polyhirmoides*; it should be Salisbury; but *M. mima* was captured near Fort Tuli.

## MYRMECOPTERA INVICTA, Pér.,

Trans. Entom. Soc. Lond., 1894, p. 450.

Bronze black, moderately shining on the upper side, under side and legs cyaneous black; head strigose; labrum black, with a median yellowish white longitudinal band in both sexes; prothorax quadrate, narrowed in front and behind, with the disk raised on each side and plicate; elytra gradually amplified from the base to about two-thirds of the length, convex, ending in two acute spines, long in the male, short in the female; each elytron with five costæ reaching from the base to two-thirds of the length, with the first and second a little shorter than the other three, and the intervals reticulate; on the second costa a narrow white line runs from near the base to about one-third of the length, and behind, edging the dorsal costæ and extending more or less diagonally from the outer margin to the inner costa, is a sinuate silvery patch; this patch is generally broader in the male than in the female, and I have seen a male example where it had disappeared altogether. Length 15–20 mm.; width 5–6 mm.

A near ally to *M. mauchi*, Bates, but half the size; the sculpture of the elytra is identical, but the costæ are better defined; the inner one is shorter than the others, the fourth and fifth unite towards the apex in the male, but seldom in the female, while in the female of



*M. mauchi* the first and fifth costæ are the longest, and unite below the others, and the posterior patch in the last-named species is triangular, short, not transverse, nearer the apex, and below the fifth costa.

*Hab.* Zambezia (Salisbury).

MYRMECOPTERA FORMOSA, Pér.,

Trans. Entom. Soc. Lond., 1894, p. 451.

Bronze black, moderately shining on the upper part, dark metallic blue underneath; head conspicuously strigose; labrum black, with a median whitish longitudinal band on both sexes; prothorax nearly quadrate, narrowed in front and behind, with the disk raised on each side and plicate; elytra gradually amplified from the base to about two-thirds of the length, convex, ending in two moderately long apical spines, longer and sharper in the male than in the female, each elytron with five costæ, the first and second near the suture very wavy, and reaching from the base to two-thirds of the length, the third costa equally long, while the fourth and fifth extend further, reaching to three-fourths of the length; the intervals between the suture and the first costa and those between the second and fifth costæ are broadly plicate, that between the first and second costæ divided into six or seven broad, deep foveæ, and the space between the fifth costa and the outer margin also broadly foveate in the male, less so in the female; in the fourth interval runs a basal yellowish-white band reaching about the median part of the disk, and there is a supra-apical, more or less triangular, broad patch of the same colour placed below the fourth and fifth costæ; legs very dark blue. Length 18–20 mm.; width 5–7 mm.

Allied to *M. mauchi*, Bates, but differentiated by the broad and deep foveæ in the second interval on the elytra; the dorsal longitudinal white band is longer in proportion, and the apical one more broadly triangular.

*Hab.* Zambezia (Salisbury).

MYRMECOPTERA MARSHALLI, Pér.,

Trans. Entom. Soc. Lond., 1894, p. 450.

Black with a bronze tinge; elytra brassy, moderately shining; under side and legs black, with a bluish tinge; labrum black, with a broad median yellowish-white patch in the male, and a narrow one in the female, head very obliquely plicate between the eyes, and transversely so behind; prothorax subcylindrical, only a little longer than broad, with the discoidal part somewhat raised on each side, narrowed in front and behind, transversely plicate, and with a median band of white hairs reaching from

apex to base; elytra elongated, gradually amplified from the base to about two-thirds of the length, ending in two sharp, long, sutural spines in the male, short and blunt in the female, convex, with five costæ reaching from the base to two-thirds of the length, but the first and fifth longer than the three discoidal ones, intervals foveato-reticulate, apical part shagreened, on each side a white line running on the second costa from the base to about one-fourth of the length, a more or less sublunar or rounded patch of the same colour placed at the apex of the three discoidal raised lines, and a narrow supra-marginal posterior band extending from the same height as the discoidal patch to the apex. Length 19 mm.; width 5–7 mm.

In general facies this species approximates to *M. polyhirmoides* or *M. Mashuna*, but the markings on the elytra are very different.

*Hab.* Zambezia (Salisbury).

#### MYRMECOPTERA SPECIOSA.

Very similar at first sight to *M. bilunata*, but it is a little larger and the foveæ of the elytra are deeper and broader; the elytra are more broadly ampliate past the middle in both sexes, and have a very distinct juxta-sutural costa running from the base to about the median part, and much better defined than in *M. bilunata*, and instead of an anterior supra-marginal white band there is an ill-defined white dot close to the juxta-sutural costa; the post-median discoidal spot is much larger and round, and the apical supra-marginal band is broader and very much shorter; in the male the basal white spot is either entirely wanting or hardly noticeable. Length 17–19 mm.; width 5–6 mm.

*Hab.* Zambezia (Buluwayo).

#### SECTION C.—(DROMICA.)

DROMICA QUINQUE-COSTATA, Horn,  
Catal., p. 97.

Dr. Horn has sent me his type; I possess also a male of this species, which, however, I considered at the time to be only a slight variety of *D. clathrata*, from which it differs by a more slender shape and by the more ovate form of the elytra, which are not depressed at the base; the five costæ on each side are shorter, and the apical yellowish spot is ovate, not elongate as in *clathrata*, and situated at a greater distance from the margin.

It is this species which de Chaudoir in his collection has identified as the *D. clathrata* of Klug.

*Hab.* The locality of my example is not known to me.

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